

CLAIMS

What is claimed is:

- 1 1. A method comprising:
2 receiving a request to download data into flash memory;
3 halting the downloading of the data into the flash memory until the flash memory
4 is initialized, wherein the initialization includes storing pointers in a memory to different
5 locations within the flash memory where the data is to be stored; and
6 storing the data into the flash memory based on the pointers stored in the memory.
- 1 2. The method of claim 1, wherein the initialization of the flash memory comprises:
2 generating headers for the different locations within the flash memory where the
3 data is to be stored; and
4 storing the headers at the different locations within the flash memory.
- 1 3. The method of claim 1, further comprising storing the data received from the
2 download into a number of buffers prior to storing the data into the flash memory.
- 1 4. The method of claim 1, wherein the initialization of the flash memory comprises
2 reclaiming space within the flash memory that is reclaimable for storage of data into the
3 flash memory.
- 1 5. A method comprising:
2 receiving a request from an external device to store data into a flash memory of a
3 device, wherein the request includes the size of the data;
4 initializing the flash memory of the device prior to receiving the data, wherein the
5 initializing comprises,

6 determining whether the size of free space within the flash memory is
7 greater than the size of the data;
8 upon determining that the size of the free space within the flash memory is
9 not greater than the size of the data, reclaiming space within the flash memory;
10 generating headers for each of a number of different locations within the
11 flash memory where the free space is located;
12 storing the headers into the number of different locations within the flash
13 memory; and
14 storing pointers, in a separate memory, to the number of different locations
15 within the flash memory where the free space is located;
16 transmitting a signal to the external device to transmit the data after the
17 initialization of the flash memory is completed;
18 receiving the data into a number of buffers within the device; and
19 storing the data within the number of buffers into the number of different
20 locations within the flash memory where the free space is located.

1 6. The method of claim 5, wherein the separate memory is a random access memory.

1 7. The method of claim 5, wherein the device is a cellular telephone and the external
2 device is a server coupled to a network and wherein the data is transmitted to the cellular
3 telephone through a wireless transmission link.

1 8. The method of claim 5, further comprising disabling interrupts within the device
2 when portions of the data are being written into the number of different locations in the
3 flash memory.

1 9. The method of claim 8, further comprising:

2 determining whether interrupts are pending in the device periodically during the
3 time the data is being written into the number of different locations in the flash memory;
4 and
5 periodically halting the writing of the data into the number of different locations
6 in the flash memory and servicing the interrupts that are pending in the device upon
7 determining that interrupts are pending.

1 10. An apparatus comprising:

2 a flash memory partitioned into blocks;
3 a random access memory coupled to the flash memory;
4 a write unit coupled to the flash memory and the random access memory, wherein
5 the write unit is to receive a request to download data into the flash memory and wherein
6 the write unit is to download the data into the flash memory; and

7 an initialize unit coupled to the flash memory, the random access memory and the
8 write unit, wherein the initialize unit is to store pointers, prior to downloading the data
9 into the flash memory, in the random access memory to a number of the blocks within the
10 flash memory that are free to store the data.

1 11. The apparatus of claim 10, wherein the initialize unit is to store headers at the
2 number of different blocks within the flash memory, prior to downloading the data into
3 the flash memory.

1 12. The apparatus of claim 10, wherein the initialize unit is to reclaim space, prior to
2 downloading the data into the flash memory, within flash memory that is reclaimable for
3 storage of the data into the flash memory upon determining that the size of free space
4 within the flash memory is less than the size of the data to be downloaded into the flash
5 memory.

1 13. The apparatus of claim 10, wherein the write unit is to store the data received from
2 the download into a number of buffers prior to storing the data into the flash memory.

1 14. A system comprising:

2 a server coupled to a network; and

3 a cellular telephone wirelessly coupled to the network, wherein the cellular
4 telephone comprises,

5 a flash memory partitioned into blocks;

6 a random access memory coupled to the flash memory;

7 a processor that is coupled to the flash memory and the random access
8 memory, the processor to execute a number of instructions, which when executed by the
9 processor causes the processor to,

10 receive a request, from the server, to download data into the flash
11 memory;

12 halt the downloading of the data into the flash memory until the
13 flash memory is initialized, wherein the initialization includes storing pointers in
14 the random access memory to a number of the blocks within the flash memory
15 where the data is to be stored; and

16 store the data into the flash memory based on the pointers stored in
17 the memory.

1 15. The system of claim 14, wherein the initialization of the flash memory comprises:

2 generating headers for the different locations within the flash memory where the
3 data is to be stored; and

4 storing the headers at the different locations within the flash memory.

1 16. The system of claim 1, further comprising storing the data received from the
2 download into a number of buffers prior to storing the data into the flash memory.

1 17. The system of claim 1, wherein the initialization of the flash memory comprises
2 reclaiming space within the flash memory that is reclaimable for storage of data into the
3 flash memory.

1 18. A machine-readable medium that provides instructions, which when executed by a
2 machine, causes the machine to perform operations comprising:
3 receiving a request to download data into flash memory;
4 halting the downloading of the data into the flash memory until the flash memory
5 is initialized, wherein the initialization includes storing pointers in a memory to different
6 locations within the flash memory where the data is to be stored; and
7 storing the data into the flash memory based on the pointers stored in the memory.

1 19. The machine-readable medium of claim 18, wherein the initialization of the flash
2 memory comprises:
3 generating headers for the different locations within the flash memory where the
4 data is to be stored; and
5 storing the headers at the different locations within the flash memory.

1 20. The machine-readable medium of claim 18, further comprising storing the data
2 received from the download into a number of buffers prior to storing the data into the
3 flash memory.

1 21. The machine-readable medium of claim 18, wherein the initialization of the flash
2 memory comprises reclaiming space within the flash memory that is reclaimable for
3 storage of data into the flash memory.

1 22. A machine-readable medium that provides instructions, which when executed by a
2 machine, causes the machine to perform operations comprising:

3 receiving a request from an external device to store data into a flash memory of a
4 device, wherein the request includes the size of the data;
5 initializing the flash memory of the device prior to receiving the data, wherein the
6 initializing comprises,
7 determining whether the size of free space within the flash memory is
8 greater than the size of the data;
9 upon determining that the size of the free space within the flash memory is
10 not greater than the size of the data, reclaiming space within the flash memory;
11 generating headers for each of a number of different locations within the
12 flash memory where the free space is located;
13 storing the headers into the number of different locations within the flash
14 memory; and
15 storing pointers, in a separate memory, to the number of different locations
16 within the flash memory where the free space is located;
17 transmitting a signal to the external device to transmit the data after the
18 initialization of the flash memory is completed;
19 receiving the data into a number of buffers within the device; and
20 storing the data within the number of buffers into the number of different
21 locations within the flash memory where the free space is located.

1 23. The machine-readable medium of claim 22, wherein the separate memory is a
2 random access memory.

1 24. The machine-readable medium of claim 22, wherein the device is a cellular
2 telephone and the external device is a server coupled to a network and wherein the data is
3 transmitted to the cellular telephone through a wireless transmission link.

1 25. The machine-readable medium of claim 22, further comprising disabling
2 interrupts within the device when portions of the data are being written into the number of
3 different locations in the flash memory.

1 26. The machine-readable medium of claim 25, further comprising:
2 determining whether interrupts are pending in the device periodically during the
3 time the data is being written into the number of different locations in the flash memory;
4 and
5 periodically halting the writing of the data into the number of different locations
6 in the flash memory and servicing the interrupts that are pending in the device upon
7 determining that interrupts are pending.